

...IVA, O. K.

EMBRITTLMENT OF MARTENSITE-ACID 00018X951 STEEL BY PRECIPITATION OF
TITANIUM CARBONITRIDES

UDC 669.13.02.74.28.539.6.011

SPS 56001
16 MAR 72

Article by L. M. Zelyakov, V. A. Nikolskaya, O. K. Revutskina,
Russian No 1, 1972, signed to press 3 December 1970, pp
159-165

Martensite-ACD steels on a base of Fe - 18% Ni -
slow cooling from 1200-1250°C can be embrittled by
precipitation of Ti(C,N) at a result of the
sharp drop in plasticity and ductility of the
structure. Rough lattices along the bound-
structure of the large forings are detected in the
00018X951 steel along the boundaries of the
martensite grains, and also drawn in the direction
of the hot plastic deformation of the
steel. The plastic deformation of the
of 1-2 on the scale. The relative contraction
these forings in the transverse and helpful direc-
tions (in the zone of fracturing and helpful direc-
after quenching from 820°C and of 10% at 400°C con-
prizes a total of 2-10%. Triple recrystallization
at 925-975°C [2] reduced the grain size of the marten-
values. An investigation of the precipitation
ature range of precipitation was made on the required
lices in the 00018X951 steel, the Ti(C,N) lat-
influence, and also the conditions of altering
the structures having the lattices.

The investigation was made on steel melted at the Elec-
trostat plant in open arc furnaces with a weight up to 5 t
and subsequent vacuum-arc melting in crystallizers up to 600

Steels

UDC: 669.15'24'25'28:539.4.011

BELIAKOV, L. N., NIKOL'SKAYA, V. L., REVIKINA, O. K. and SACHKOV, V. V.,
Moscow

"Embrittlement of Precipitation-Hardening Martensitic Steel"

Moscow, Izvestiya Akademii nauk SSSR, Metally, No 1, Jan-Feb 72, pp 159-165

Abstract: This study concerns the temperature range conducive to the segregation of Ti(C, N) particles in the form of networks along the austenite grain boundaries in 000X18K9M5T steel, the embrittling effect of such networks on the steel, as well as the conditions for correcting structures having such networks. On slow cooling from 1200-1250°C the coarse-grained precipitation-hardened martensitic steel becomes brittle due to the separation of Ti(C, N) networks within the 760-1000°C range. It is shown that brittleness may be eliminated by rapid cooling in water or oil. The structure and mechanical properties of steels with networks and Ti(C, N) segregations may be corrected by quenching the steel from 1200-1250°C (after homogenizing for more than 1 hr) and triple recrystallization at 900-975°C to reduce the grain size. The formation of carbonitride networks may be inhibited by lowering the end temperature of hot plastic deformation in order to preclude further recrystallization. (4 illustrations, 3 tables, 6 bibliographic references).

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UNCLASSIFIED
PROCESSING DATE--20NOV70
TITLE--QUESTIONS OF TREATMENT AND PROPHYLAXIS, SURGICAL TACTICS IN THE
TREATMENT OF COMBINED INJURIES -U-
AUTHOR--REVZIN, I.YE.
COUNTRY OF INFO--USSR
SOURCE--VOYENNO-MEDITSINSKIY ZHURNAL, NO 3, 1970, PP 19-21
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--MILITARY MEDICINE, INJURY, BURN, RABBIT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FNAME--3006/0397
CIRC ACCESSION NO--AP0134167
STEP NO--UR/0177/70/000/003/0019/0021
UNCLASSIFIED

272 019
CIRC ACCESSION NO--AP0134167 UNCLASSIFIED
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POSSIBILITY OF THE USE OF
MODERN WEAPNS, AMONG THE PRINCIPAL EFFECTIVE FACTORS OF WHICH THE
MECHANICAL AND THERMAL ARE OF GREAT IMPORTANCE, PRESENTS NEW TASKS TO
THE MILITARY MEDICAL SERVICE. IT IS NO ACCIDENT THAT SIDE BY SIDE WITH
THE FURTHER DEVELOPMENT OF THE PROBLEM OF BURNS MORE AND MORE ATTENTION
IS GIVEN TO COMBINED INJURIES, BURNS COMBINED WITH MECHANICAL TRAUMA (V.
A. KALOSHIN, 1956; A. M. BEKLEMISHEV, 1959; V. V. VLASOV, 1959; I. L.
KRUPKC, 1963, AND OTHERS). TO STUDY QUESTIONS IN THE TREATMENT OF
COMBINED INJURIES WE HAVE CONDUCTED EXPERIMENTS ON 120 RABBITS WEIGHING
2.5-3.5 KG.

UNCLASSIFIED

USSR

UDC 621.372.81.09

AL'TSHULER, YU. G., KATS, L. I., REVZIN, R. M.

"Experimental Study of Millimeter-Band Electromagnetic Wave Propagation in a Wave Guide Filled with n-InSb in a Magnetic Field"

Kiev, Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 938-944

Abstract: An experimental study was made of the millimeter-band electromagnetic wave propagation through a waveguide with an n-InSb plate in a constant magnetic field. There are defined laws on the application of the investigated effects for purposes of measuring the parameters of semiconductor materials. As a result of the small values of $\omega_c \tau$, the method of cyclotron resonance obviously has limited application in the given band. The methods based on the Faraday effect and especially the investigation of helicon waves are much more efficient. The results of measurements in different orientations of the magnetic fields indicate the effectiveness of the latter with respect to the amplitude and phase of the transmitted microwave signal. The maximum attenuation drop in the case of a longitudinal magnetic field at the temperature of liquid nitrogen with a plate thickness of 600 microns is 30 decibels on variation of the magnetic field from 0 to 5 kiloersteds. In a transverse magnetic field the maximum attenuation drops for a plate thickness of 250 microns is 17.5

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USSR

AL'TSHULER, YU. G., et al., Izvestiya vuzov SSSR, Radioelektronika, Vol XV, No 8, 1972, pp 938-944

decibels. The phase of the transmitted signal varies in this case from 0 to -133 degrees on variation of H from 0 to 15 kiloerstedes. In the case of propagation through a waveguide with an n-InSb plate arranged along the axis of the wave guide in a transverse magnetic field, nonreciprocal transmission of the millimeter-band radiation is observed with maximum decoupling of 14 decibels. Thus, it is possible to build different types of control devices (attenuators, phase converters, gyrators) in the millimeter band with parameters which are acceptable in practice on the basis of magnetically active plasma effects in semiconductors.

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USSR

AL'TSHULER, YU. G., et al., Izvestiya Vuzov SSR, Radioelektronika, Vol XV,
No 8, 1972, pp 932-937

an attenuator can be obtained with attenuation on the order of 10-15 decibels
for $H_0 = 1,000$ oersteds and variation of v_0 from 0 to $2 \cdot 10^6$ m/sec of the
phase shifter and that the polarization plane can be rotated within the limits
of $\pi/3$ for $H = 500$ oersteds and v_0 from 0 to $2 \cdot 10^6$ sec.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SODIUM IODIDE, CESIUM IODIDE, ALUMINUM IODIDE, POTASSIUM
IODIDE, CESIUM IODIDE, ALUMINUM IODIDE, AND RUBIDIUM IODIDE, CESIUM
AUTHOR--(03)-ARKHIPOV, S.M., REVZINA, T.V., MIKHEYEVA, V.I.

COUNTRY OF INFO--USSR

SOURCE--Zh. NEORG. KHIM. 1970, 15(3), 820-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHASE DIAGRAM, SOLID SOLUTION, IODIDE, SODIUM COMPOUND, CESIUM
COMPOUND, ALUMINUM COMPOUND, RUBIDIUM COMPOUND, EUTECTIC MIXTURE,
MULTICOMPONENT CHEMICAL MIXTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1994/1717

STEP NO--UR/0073/70/015/003/0820/0824

CIRC ACCESSION NO--AP0115546

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0115546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRIANGLE PHASE DIAGRAMS OF
MI-CSI-AL₃ SYSTEMS (WHERE M EQUALS NA, K, OR RB) SPLIT INTO 4
SECONDARY TRIANGULAR PHASE DIAGRAMS. THE SECTIONS NAI-AL₃-SUB₃-CSI-NAI
SUB₃ (WHERE N EQUALS 1 OR 2) AND NAI-CSI-AL₃ SUB₃ APPEAR AS QUASIBINARY
SYSTEMS FORMING LIMITED SOLID SOLNS. AND EACH HAVING ONE EUTECTIC, I.E.
AT 165 AND SIMILAR TO 43 MOLE PERCENT CSI-AL₃ SUB₃, 150 AND SIMILAR TO
46 MOLE PERCENT CSI-2AL₃ SUB₃, AND 240DEGREES AND SIMILAR 8 MOLE PERCENT
NAI, RESP. PHASE DIAGRAMS OF SYSTEMS OF CSI-AL₃ SUB₃ WITH KI-AL₃ SUB₃
AND RBI-AL₃ SUB₃ ARE CONSTRUCTED. THEY FORM EUTECTICS, AT 175DEGREES
AND SIMILAR TO 59 MOLE PERCENT KI-AL₃ SUB₃ AND SIMILAR TO 195DEGREES AND
SIMILAR TO 75 MOLE PERCENT RBI-AL₃ SUB₃, RESP. THE SYSTEM OF RBI-AL₃
SUB₃ HAS LIMITED SOLID SOLY. AT BOTH CONCENTRATIONAL EXTREMES.
EUTECTICS OF THE TERNARY SYSTEM NAI-CSI-AL₃ SUB₃ ARE (M.P., MOLE PERCENT
NAI, AND MOLE PERCENT CSI GIVEN): 115DEGREES, 23.5, 5.5; 145DEGREES,
22.0, 21.0; 160DEGREES, 31.0, 21.0; AND 235DEGREES, 2.0, 53.0.

UNCLASSIFIED

172 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THERMAL DECOMPOSITION OF CHLORATES, BROMATES, IODATES,
PERCHLORATES, AND PERIODATES OF POTASSIUM, RUBIDIUM, AND CESIUM -U-
AUTHOR-(03)-BREUSOV, O.N., KASHINA, N.I., REVZINA, T.V.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(3) 612-14

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL DECOMPOSITION, RUBIDIUM COMPOUND, POTASSIUM COMPOUND,
CESIUM COMPOUND, CHLORATE, BROMATE, PERCHLORATE, IODATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/1872

STEP NO--UR/0073/70/015/003/0612/0614

CIRC ACCESSION NO--AP0115691

UNCLASSIFIED

2/2 018

UNCLASSIFIED.

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0115691

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THERMAL DECOMP. OF M (M EQUALS K, RB, AND CS) CHLORATES, BROMATES, IODATES, PERCHLORATES, AND PERIODATES WERE STUDIED BY DTA, THERMOGRAVIMETRY, AND BY EVOLVED GAS DETECTION. THESE COMPS. DECOMP. WHEN MELTED AND THEIR THERMAL STABILITY INCREASED IN THE ORDER: MIO SUB4 SMALLER THAN MBRO SUB3 SMALLER THAN MCLO SUB3 SMALLER THAN MIO SUB3 SMALLER THAN MCIO SUB4. WITH THE EXCEPTION OF PERCHLORATES AND IODATES, ALL THESE COMPS. EVOLVED GREAT ENERGY DURING THE INITIAL CLEAVAGE OF O, WHICH MADE THEM EXPLOSIVE.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--LACTIC ACID BACTERIA CULTURES IN THE PRODUCTION OF SAUSAGE -U-
AUTHOR--REY, M. *R*
COUNTRY OF INFO--USSR
SOURCE--MYAS. IND. SSSR 1970, 41(1), 37-9
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LACTIC ACID, STREPTOCOCCUS, BACTERIA, FOOD INDUSTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1998/0526 STEP NO--UR/9086/70/041/001/0037/0039
CIRC ACCESSION NO--AP0121200

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121200

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF STREPTOCOCCUS DIACETILACTIS OR LACTOBACILLUS PLANTARUM OR THEIR MIXTS. DURING THE PRODUCTION OF NEVSKAYA SAUSAGES IMPROVED TASTE AND FLAVOR. LACTIC ACID (I) FORMED DECREASED PH AND PREVENTED THE GROWTH OF UNDESIRABLE MICROORGANISMS. THE AMT. OF I INCREASED DURING THE FIRST 15 HR OF RIPENING TO APPROX. 3.7 MEQUIV. THEN IT BEGAN TO DECREASE AND DROPPED TO APPROX. 2.5 MEQUIV DURING THE NEXT 30 HR. THE DECREASE WAS ACCOMPANIED BY AN INTENSIVE FORMATION OF PYRUVIC ACID (II), PARTLY BY OXIDN. OF I. THE LEVELS OF BUTYRIC ACID AND PROPIONIC ACID WERE SMALLER THAN 1PERCENT OF THE TOTAL AMT. OF ACIDS AS COMPARED WITH 3 AND 6PERCENT, RESP., IN THE CONTROL. THE CONTENT OF II WAS 22-3PERCENT OF THE TOTAL ACIDS. FACILITY: MOSK. TEKHNOL. INST. MYAS. MOLOCH. PROM., MOSCOW, USSR.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SCREW FEEDER FOR FREE FLOWING MATERIAL -U-
AUTHOR--GAVRILIN, A.V., FRAYMAN, R.P., REYBAKH, M.S., POLYAK, L.G.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1) 60-3
DATE PUBLISHED-----70
SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--MATERIAL HANDLING, FEED MECHANISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/1337 STEP NO--UR/0064/70/046/001/0060/0063
CIRC ACCESSION NO--AP0106114

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106114

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A GRAVITY SCREW FEEDER FOR THERMALLY UNSTABLE, FINELY DIVIDED SOLIDS IS DESCRIBED; ITS MAIN COMPONENT IS A ROTATING SPIRAL CHANNEL, AND ITS ACCURACY IS IN MOST CASES PLUS OR MINUS 1PERCENT, INDEPENDENTLY OF THE DIRECTION OF ROTATION.

UNCLASSIFIED

USSR

UDC 59:616.986.7:591.522(470.111)

KARASEVA, Ye. V., KOKOVIN, I. L., and REYCHUK, Ye. A., Institute of Epidemiology and Microbiology, Academy of Medical Sciences USSR

"Natural Foci of Leptospirosis in the Far North (From Data Obtained in the Yamalo-Nenets National Area)"

Moscow, Zoologicheskii Zhurnal, Vol 51, No 3, 1972, pp 467-468

Abstract: The field work was carried out in July and August, 1969, by two groups working simultaneously: one in the region of Seyakha, the other in a boat along a course up along the Seyakha river, through lake Khento up to lake Yambuto. All of the material obtained underwent a bacteriological examination in the field laboratory and a blood serum agglutination reaction and was placed with known strains in the permanent laboratory. A total of 541 specimens of rodents were obtained from the central part of Yamal (Seyakha) region: 426 Lemmus obensis, 38 Dicrostonyx torquatus, 78 Microtus gregalis, and three Clethrionomys glareolus from near Salekhard. Fifty-three birds, mainly from the orders Anseriformes and Charadriiformes, and 14 pigeons were also examined. Foci of leptospirosis were absent from the valley of the Seyakhi river (70° N latitude). Antibodies to L. grippotyphosa were found in the blood serum from three voles further south, near Salekhard

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USSR

UDC: 619:616.986.7*036.2:636

SOLOSHENKO, I. Z., PETROV, Ye. M., SHOROKHOV, V. V., DROZHIN, A. G., REYCHUK, Ye. A., and OBOLONKOVA, L. K., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Sciences USSR, and Moscow Technological Institute of Meat and Dairy Industry

"Problems of Leptospirosis Epizootiology"

Moscow, Veterinariya, No 12, Dec 70, pp 41-43

Abstract: Cattle, hogs, horses, and sheep in several regions of the Soviet Union were subjected to serological studies (microagglutination), culturing kidney suspensions, and microscopic examination of urine, with subsequent infection of guinea pigs. *Leptospira tarassovi* and *pomona* were agents in hogs. The possibility of infection in the Ulyanovsk region by *L. grippotyphosa* is not excluded. Cattle appear to be infected by *L. pomona*, *hebdomadis*, and *tarassovi*. Antibodies for *tarassovi*, *icterohaemorrhagiae*, and *australis* were most frequently observed in the blood sera of horses. The *L. ballum* group was found in the sera of sheep and goats. Antibody titers in all serological groups were low. Acute infections did not exist among test animals.

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USSR

UDC 632.95

LOZINSKIY, M. O., PROTOPOPOVA, G. V., DZYUBAN, A. D., REYDALOVA, L. I.,
KUKOTA, S. N., PEL'KOS, P. S.

"Pesticidal Properties of α -arylhydrazono- β -oxocarboethoxybutyryl- λ -
triphenyl (or trimethylol)-phosphonium Bromides"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active
Substances. Republic Interdepartmental Collection), 1972, vyp. 4, pp 33-34
(from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N468)

Translation: The synthesis and insecticidal properties of compounds with the
following formula are described: $[R_3PCH_2COC(=NNHC_6H_4R')COOC_2H_5]Br(I)$ ($R = Ph$,
 CH_2OH ; $R' = H, Cl, alkyl$). A solution of 0.02 moles of Ph_3P in 10 ml of C_6H_6
is added to a solution of 0.02 moles of $BrCH_2COC(COOC_2H_5)(=NNHC_6H_4R')$ in 10-
15 ml of C_6H_6 , it is mixed at $\sim 20^\circ$ for 10 to 12 hours, the precipitate is
separated, washed with C_6H_6 and crystallized from the mixture of C_6H_6 and
acetone to obtain I (R' , the melting point in $^\circ C$ are presented) $R = Ph$:
H(Ia), 144; π -Me (Ib), 143; π -OMe (Ic), 146; π -Cl (Id), 167-8; π -COOMe (Ie),
177-8; π -NO₂, 135-6; 2-OMe-5-NO₂, 146. By a reaction in dimethylformamide,
I ($R = CH_2OH$) is obtained (R' and the melting point in $^\circ C$ are presented):
 π -Cl, 141-2; 2-OMe-5-NO₂, 140. The Ia-e in a concentration of 0.1% have 60
to 100% activity with respect to greenbug (*Toxoptera graminum*). The I has
low activity with respect to red spider mites.

Pesticides

USSR

UDC 632.95

PROTOPOPOVA, G. V., DZYUBAN, A. D., REYDALOVA, L. I., GOLIK, G. A., and SHOKOL, V. A.

"Insecticidal and Acariasicidal Properties of the Esters of Phosphazomethylphosphonic Acid"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiological Effects of Compounds, Republic Interscience Symposium), Vyp 4, 1972, pp 11-13 (from Referativnyy Zhurnal -- Khimiya, No 4(II), 1973, Abstract No 4N603 by T. A. Belyayeva)

Translation: The esters of phosphazomethylphosphonic acid under laboratory conditions demonstrate insecticidal and acaricidal properties of a contact and systemic nature. Of the compounds studied, $\text{MeP(O)(OEt)N=P(OisoPr)}_3$ compound I) showed the strongest contact effect -- $\text{SK}_{50} = 1.78$ in 3 days for rice weevils and 0.39 for grain aphids. Contact insecticidal activity was increased by using iso-Pr in the trialkoxyphosphazomethyl group. Comp. I in a 0.05% concentration results in 96% mortality of the mite *Tetranychus urticae* on the second day.

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UDC 632.95

USSR

PROTOPOPOVA, G. V., REYDALOVA, L. I., DZYUBAN, A. D., MOLYAVKO, L. I., DOROSH-
ENKO, V. V., MIKHAYLYUCHENKO, N. K., SHOKOL, V. A., DERKACH, G. I.

"Insecticidal Activity of Esters of bis-(3-arylcarbamido) phosphoric and
thiophosphoric Acids"

Fiziol. aktivn. veshchestva. Resp. mezhved. sb. (Physiologically Active
Materials. Republic Interdepartmental Collection), 1972, vyp. 4, pp 9-11
(from RZH-Khimiya, No 5 (II), 1973, Abstract No 5N579)

Translation: A study was made of the insecticidal activity of esters with
the formula $ROP-(X)(NHCONHR')_2$ (I) ($X = O$ or S ; $R = \text{alkyl, aryl}$; $R' = \text{Ph,}$
 $C_6H_4SCN-\pi$, α -pyridyl) for rice weevils, housefly larvae and imago and
greenbugs. The I containing the SCN-group have the highest insecticidal
activity, and among them the activity rises on going from the methyl to
the propyl and isopropyl radicals.

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REYDERMAN, Ye. N.

JPRS - 54193
010571

UDC 615.835.35

HYPERBARIC CHAMBER 'OKSIDAR-1'

[Article by S. A. Glukhov, E. R. Chernyakhovskiy, and Ye. N. Reyderman, of the All-Union Scientific Research Institute of Medical Instrument Manufacturing, Moscow; Moscow, Meditsinskaya Tekhnika, Russian, No 3, 1971, pp 36-40]

A large number of experimental and clinical investigations during the last decade have demonstrated the future possibilities for applying the therapeutic method of hyperbaric oxygenation in various fields of medicine. The method provides the required conditions for a rapid and effective increase in the partial pressure of physically diluted oxygen and an increased stress gradient and diffusion rate of oxygen between the blood and hypoxic tissues.

There is now an opinion in the special literature regarding the advisability of applying hyperbaric oxygenation in cases of acute and regional oxygen deficiencies of different origin, certain infectious processes, and other pathologies. Depending on the purpose and conditions of their application, hyperbaric chambers are used for therapeutic and surgical procedures as well as for radiation therapy.

One-person therapeutic chambers rule out the simultaneous presence of medical personnel and patient, and this factor significantly limits the scope of therapeutic and reanimation measures during hyperbaric oxygenation. Large pressure chambers designed to include medical personnel and to permit reanimation procedures broaden the possibilities of treatment when the seriousness of the condition requires the presence of physician or nurse (for example, during the postoperative period). The desirability of a physician's presence in the chamber during the treatment period may also be caused by a need to define and further process clinical methodology for certain illnesses, as well as to check

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE DEVELOPMENT OF ADRENERGIC APPARATUS OF THE HEART IN MATURELY
AND IMMATURELY BORN ANIMALS -U-
AUTHOR-(02)-GOVYRIN, V.A., REYDLER, R.M.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, 1970, VOL 6, NR 2,
PP 198-203
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART MUSCLE, CATECHOLAMINE, GUINEA PIG, RAT, RABBIT,
EMBRYOLOGY, SYMPATHETIC NERVOUS SYSTEM, NORAURENALIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0368

STEP NO--UR/0385/70/006/002/0198/0203

CIRC ACCESSION NO--AP0132597

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132597

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. STUDIES HAVE BEEN MADE ON THE DISTRIBUTION OF ADRENERGIC FIBERS AND THE CONTENT OF CATECHOLAMINES IN THE CARDIAC MUSCLE OF MATURELY (GUINEA PIG) AND IMMATURELY BORN (RAT, RABBIT) ANIMALS AT VARIOUS STAGES OF EMBRYONIC AND POSTNATAL DEVELOPMENT. CATECHOLAMINES WERE DETERMINED BY THE METHOD OF EULER AND FLOODING (16). ADRENERGIC FIBERS WERE REVEALED AFTER FALK AND HILLARP (18). HISTOCHEMICAL AND BIOCHEMICAL DATA INDICATE THAT ELEMENTS OF THE SYMPATHETIC NERVOUS SYSTEM APPEAR IN THE HEART OF THE ANIMALS STUDIED DURING THE SECOND HALF OF GESTATION. ORIGINALLY THEY ARE OBSERVED IN THE ATRIA AND ONLY LATER ON, IN THE VENTRICLES. NORADRENALIN WAS FOUND IN RABBIT'S CARDIAC MUSCLE ON THE 14TH DAY OF EMBRYOGENESIS, WHEN ADRENERGIC FIBERS WERE NOT YET REVEALED. TO THE END OF GESTATION, THE CONTENT OF NORADRENALIN IN THE HEART OF THE GUINEA PIG AMOUNTS TO 50PERCENT AND THAT OF THE RABBIT, TO 20PERCENT OF THE LEVEL OBSERVED IN ADULT ANIMALS. FORMATION OF THE ADRENERGIC APPARATUS IN THE GUINEA PIG IS ACCOMPLISHED TO THE END OF THE 1ST WEEK OF POSTNATAL LIFE, WHEREAS IN THE RABBIT, ONLY TO THE 5-6TH WEEKS. FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

USSR

UDC: 51

REYDMAN, R. M.

"On One Problem of Minimizing the Cost of an Operational Monitoring System"

V sb. Operativn. upr. proiz-vom (Operational Control of Production--collection of works), Moscow, "Nauka", 1971, pp 13-24 (from RZh-Kiber-netika, No 4, Apr 72, Abstract No 4V458)

Translation: A set of given territorially distributed objects each having a number of monitorable outputs is considered together with the set of locations for possible installation of centralized monitoring facilities. The problem is formulated within the framework of discrete programming; the method of "branches and boundaries" is used for the solution. Author's abstract.

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USSR

UDC 620.193.4

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MULYAKAYEV, L. M., DUBININ, G. N., DALISOV, V. B., POLUBOYARTSEVA, L. A.,
MANTOROVA, T. M., and REYFER, A. A., Moscow Aviation Institute imeni
Sergo Ordzhonikidze

"Corrosion Resistance of Diffusion Chrome Plated Steel in Certain Mediums"

Moscow, Zashchita Metallov, Vol 9, No 1, Jan-Feb 73, pp 66-70

Abstract: A study was made of the corrosion behavior of chrome plated steels in a series of industrial aggressive media. Specimens of carbon steels (brands 35 and 45) and of OKh21N5T austenitic-ferritic class steel were chromated according to a technology developed by the Chair of Aviation Science of Metals of Moscow Aviation Institute; their diffusion layer was x-ray-analyzed and its thickness and microhardness measured. Corrosion resistance curves of brand 45 steel before and after diffusion chrome plating at 1100° for 10 hrs show that diffusion chromating protects brand 45 steel against corrosion in a 15% solution of tartaric acid and in a 3% solution of table salt, but does not reliably protect it in a concentrated freon solution widely used in refrigerating plants at operating conditions of 300° and 60 at. Results of corrosion tests under industrial conditions of up to two years duration of brand 35 steel and OKh21N5T steel, chromated and not chromated, are shown. The corrosion rate of brand 35 steel subjected to the action of an aggressive

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USSR

MULYAKAYEV, L. M., et al., Zashchita Metallov, Vol 9, No 1, Jan-Feb 73,
pp 66-70

medium for up to 672 hrs with a diffusion coating is ten times lower than without a coating and approximately equal to the corrosion rate of OKh21N5T stainless steel in this medium. The use of a chromated diffusion coating to increase the corrosion resistance of OKh21N5T proved to be of little effect. Two figures, two tables, five bibliographic references.

2/2

- 14 -

USSR

UDC 669.71.053.4.094

AKSEL'RUD, G. A., ABRAMOV, V. YA., SEMENISHIN, YE. M., REYFMAN, E. D., SADOVOY, G. T.

"Kinetics of Extraction of Alkali from Sodium Ferrite"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute
of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 82-84 (from
RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G143)

Translation: A study was made of the kinetics of extracting Na_2O under various temperature conditions during decomposition of sodium ferrite by water as applied to leaching bauxite cakes. The limiting stage of the given process is established, and values of the diffusion coefficients are determined. There is 1 table.

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USSR

UDC 669.71.053.4.094

AKSEL'RUD, G. A., ABRAMOV, V. YA., REYFMAN, E. D., SEMENISHIN, YE. M., GUMNITS-KAYA, N. A.

"Extraction of Sodium Aluminate in Capillary Models"

Tr. Vses. n.-i. i proyekt. in-ta alyumina, magn. i elektrod. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 85-90 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G142)

Translation: Results are presented from a study of the process of extracting sodium aluminate by solutions of various concentration at temperatures of 60, 75, and 95°. The values of the diffusion coefficient of sodium aluminate are calculated on the basis of processing the experimental data. An explanation is presented for the nature of variation of the magnitudes of the diffusion coefficients based on the $\text{Na}_2\text{O}-\text{Al}_2\text{O}_3-\text{H}_2\text{O}$ system. There are 3 illustrations and 1 table.

1/1

- 15 -

USSR

UDC 669.295.046.43

REYFMAN, E. D., IL'ICHEV, V. A., ZOTIKOVA, A. N., L'VIN, I. B.

"Mathematical Model of the Process of Chlorination of Titanium-Containing Materials in a Fluidized Bed"

Tr. Vses. N-i. i Proyechn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 196-200. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G212 by the authors).

Translation: Problems of mathematical modeling of processes of chlorination in a fluidized bed are presented. A mathematical model of the process is suggested for two basic technological modes. The adequacy of this model for processes occurring in actual apparatus in the mode of complete assimilation of Cl is demonstrated. The model developed allows automatic control systems to be developed for the process of chlorination of materials containing Ti in a fluidized bed. 2 figs.

1/1

USSR

UDC 669.71.053.4.094

AKSEL'RUD, G. A., ABRAMOV, V. YA., REYFMAN, E. D., SEMENISHIN, YE. M.,
DUDKO, T. A.

"Mathematical Model of the Diffusion Counter Flow Process of Leaching Alumina-Containing Cakes"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 96-102 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G137)

Translation: A mathematical model of the diffusion counter-flow process of leaching large-fraction cakes is proposed. A method and an example of calculating the diffusion counter-flow process of leaching bauxite cakes in a percolation unit are presented. There are 3 illustrations and 1 table.

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USSR

UDC 669.71.053.4.094

AKSEL'RUD, G. A., ABRAMOV, V. YA., DUDKO, T. A., REYFMAN, E. D., SEMENISHIN, YE. M.

"Kinetics of Leaching Bauxite Cakes"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti
(Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 91-95 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G140)

Translation: The kinetics of extracting sodium aluminate from various fractions of bauxite cakes in the 45-95° temperature range are investigated. The diffusion coefficients of sodium aluminate are determined, and their dependence on the temperature variation is found. The characteristics of the mechanism of leaching of the cakes are established. The values of the diffusion coefficient found in this study can be used when calculating counterflow processes and equipment. There are 3 illustrations and 1 table.

1/1

REY FMAN, M.B.

SPRS 59208

6.73

5

1X-9. OBTAINING SINGLE SILICON CARBIDE CRYSTALS IN THE CUBIC VERSION (B-SIC) AND THE STUDY OF THEIR STRUCTURE

Article by M.B. Reyman, N. K. Prokof'eva, V. G. Kondin, L. A. Zhukova, L. A. Shergol'kova, Moscow; Novosibirsk, III Symposium on Interatomic Bonds I. Sintering Polymers and Composites, Krasnodar, 12-17 June 1977, p 125

A study was made of the possibility of obtaining single β -silicon carbide crystals by thermal reduction of the vapor-gas mixture using methyl trichlorosilane-toluene (ratio 1:1).

By using the C^{14} radiolabel, the participation of an additional carbon-containing compound introduced into the vapor-gas mixture in the reaction of formation of the β -silicon carbide was demonstrated.

The optimal conditions for growth of plate single crystals with dimensions of the mirror surface reaching $4 \times 3 \text{ mm}^2$ in individual cases were determined. On the basis of the grown crystals, the point-contact and diffuse light diodes and also barrier-layer photoelements were manufactured.

X-ray diffraction and electron diffraction studies were used to demonstrate the theoretical possibility of obtaining perfect crystals by the indicated method.

USSR

UDC [537.226+537.311.33]:[537+535]

PONOMARENKO, V. K., KONONOV, A. N., SOROKIN, E. I., DUMANOV, N. YU.,
REYFMAN, M. B.

"Determining Certain Parameters of n-Type Silicon Carbide Crystals"

Sb. nauch. tr. Mosk. inzh.-fiz. in-t. Vech. otd. (Collection of Scientific Works of Moscow Engineering Physics Institute. Evening Division), Chelyabinsk, 1971, pp 23-36 (from RZh Fizika, No 12, Dec 71, Abstract No 12Yel303)

Translation: It was observed from measurements of the Hall effect and electrical conductivity that the electron concentration in the crystals studied varied at room temperature from $3 \cdot 10^{16}$ to $5 \cdot 10^{17} \text{ cm}^{-3}$ and the mobility μ varied from 270 to 170 $\text{cm}^2/\text{sec} \cdot \text{v}$. Scattering by thermal oscillations of the lattice makes the basic contribution to the mobility. The concentration of carriers n , as determined on the basis of the value of μ , differs from the corresponding values obtained on the basis of the Hall temperature curves by not more than 20-25%. An explicit dependence of n and μ on the dislocation density was not observed. Resume.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--LOW TEMPERATURE PHOTOLUMINESCENCE OF ALPHA SIC, 6H, SINGLE CRYSTALS
-U-
AUTHOR--(05)-LISITSA, M.P., KRASNOV, YU.S., ROMANENKO, V.F., REYFMAN, M.B.,
SERGEYEV, O.T.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTRUSK. 1970, 28(3), 492-7
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTOLUMINESCENCE, LUMINESCENCE, SILICON, SINGLE CRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1998/0921 STEP NO--UR/0051/70/028/003/0491/0497
CIRC ACCESSION NO--AP0121523
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121523

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOW TEMP. (20DEGREESK)
PHOTOLUMINESCENCE OF THE ALPHA SIC (6H) SINGLE CRYSTALS ALLOYED WITH N
AND AL IS CHARACTERIZED BY THE PRESENCE OF TWO SERIES OF EMISSION BANDS
CORRESPONDING TO THE RECOMBINATION IN THE DONOR ACCEPTOR PAIR. THE
NEUTRAL N ATOM DOES NOT ACT AS THE CENTER OF THE RADIATIVE RECOMBINATION
IN SUCH CRYSTALS.

UNCLASSIFIED

1/2 014
UNCLASSIFIED
TITLE--CORRELATION BETWEEN THE DENSITY OF ELECTROLYTE SOLUTIONS AND THEIR
MOLAR CONCENTRATION -U-
AUTHOR--REYKHARDT, A.A.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 437-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTROLYTE, SPECIFIC DENSITY, PARAMETER, SOLVENT, SOLUTION
KINETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1283
CIRC ACCESSION NO--AP0116745
STEP NO--UR/0076/70/044/002/0437/0439
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116745

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONCEPT OF THE REPLACEMENT
COEFF. (K SUBR) DEFINED AS THE NO. OF MOLES OF SOLVENT REPLACED BY 1
MOLE OF SOLUTE IN THE FORMATION OF SOLNS. IS INTRODUCED. EQUATIONS ARE
DERIVED FOR THE RELATION OF THE D. D. TO K SUBR AND OTHER SOLN.
PARAMETERS. FACILITY: GOS. INST. PRIKL. KHIM., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 678.06:678 029.5:669:678.742.2]01:53

KALNIN', M. M., KARLIVAN, V. P., METRA, A. YA., SOBOLEVSKIY, CH. A., MALERS, L. YA., DZENIS, M. YA., KRAGIS, I. ZH., and REYKHMANIS, P. K.

"Metalloplastics Based on Modified Polyethylene"

Moscow, Plasticheskiye Massy, No 10, 1972, pp 31-33

Abstract: The technological process of the production of metalloplastics is based on thermal contact [plating] between a pretreated metal base and a film of modified polyethylene. Optimal ranges of the important parameters influencing the properties of metalloplastics are as follows: temperature of thermal contact -- 200-250°C; duration of the contact -- 30-60 sec; filler content -- 8-10 vol-%. The surface of the metal base is cleaned, preheated and passed through a set of rollers where the initial contact with modified polyethylene is made. Final bonding occurs in an induction heating chamber. The material obtained -- the unilateral of bilateral metalloplastic -- shows high anticorrosive properties. It can be processed by several methods such as bending, folding, or die stamping. Surfaces can be joined together by welding or folding and other methods. This material is ideally suited for production of equipment resistant to chemical agents, such as storage or sedimentation tanks. It could be used for production of special pipe lines, ventilation systems, etc. Due to

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USSR

KALNIN', M. M., et al., Plasticheskiye Massy, No 10, 1972, pp 31-33

the ability of producing colored surface coatings, it could also be used in automobile, airplane or ship building industry as well as for construction of furniture or specialized equipment.

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USSR

UDC 532.591.001.5

MIKHAYLOVA, N. A., Candidate of Physical and Mathematical Sciences,
REYKHREDEL', A. E., Engineer

"Experimental Investigation of the Transformation of Single Wave on
Obstacles"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 11, November 1970, pp 35-38

Abstract: In the article are presented the results of an experimental laboratory investigation of the interaction of single waves with trapezoidal obstacles having different slopes of the head surface. The purpose of the research was to study the transformation of single waves when approaching the obstacle and when pouring over it. The results may be used for natural conditions in calculating the volume of water pouring over the obstacle and the height of the layer that is pouring over; formulas for provisional calculations are presented. 6 figures, 1 table, 3 bibliographic entries.

1/1

1/2 011 UNCLASSIFIED
TITLE--TRI, AND HEXASUBSTITUTED BENZENES -U- PROCESSING DATE--04DEC70
AUTHOR-(02)-REYKHSFELD, V.O., LEYN, B.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,389
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--03MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--BENZENE DERIVATIVE, ACETYLENE HYDROCARBON, CHEMICAL PATENT,
CHEMICAL SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0843 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--4A0136277
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 011
CIRC ACCESSION NO--AA0136277
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPOS. ARE PREPD. BY
CYCLOTRIMERIZATION OF MONO, AND DISUBSTITUTED ACETYLENES, RESP., BY
REFLUXING IN A SOLVENT OVER 1-30 EQUIVS. BISICROTYLNICKELHALIDES).
FACILITY: LENINGRADSKIY TEKHNLOGICHESKIY INSTITUT IM. LENSOVETA.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--KINETICS OF ETHYL ACRYLATE TRANSESTERIFICATION BY ALLYL AND ISOAMYL
ALCOHOLS ON KU-2-8 CATION EXCHANGER -U-
AUTHOR--(03)-FILIPPOV, N.A., YAVSHITS, G.P., REYKHSFELD, V.O. *R*
COUNTRY OF INFO--USSR
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 467-70
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ESTERIFICATION, ACRYLATE, ALCOHOL, CATION EXCHANGE RESIN,
DEHYDRATION, ACTIVATION ENERGY, DIELECTRIC CONSTANT, REACTION KINETICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1421 STEP NO--UR/0080/70/043/002/0467/0470
CIRC ACCESSION NO--AP0116868
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0116868

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECT OF TEMP. AND QUANTITY OF CATION EXCHANGER ON THE RATE OF TRANSESTERIFICATION OF ET ACRYLATE (I) BY ALLYL (II) AND ISOAMYL (III) ALCS. AND ON THE RATE OF DEHYDRATION OF II WAS STUDIED AT 60-90DEGREES. RATE CONSTS. WERE CALCD. THE ACTIVATION ENERGIES OF THE DEHYDRATION OF II AND OF TRANSESTERIFICATION OF I BY II, AND OF TRANSESTERIFICATION OF I BY III WERE 24, 15.2, 14.6 KCAL-MOLE, RESP. RATE CONSTS. INCREASED LINEARLY WITH QUANTITY OF THE CATION EXCHANGER. LINEAR DEPENDENCE WAS FOUND BETWEEN LOGARITHM OF LIMIT SORPTION OF THE ALCS. BY CATION EXCHANGER AND DIELEC. CONSTS. OF THE ALCS. RELATION IS CONSIDERED BETWEEN DIELEC. CONST., LIMIT SORPTION, AND REACTION ACTIVITY OF THE STUDIED ALCS. FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--HOMOGENEOUS CATALYTIC HYDROSILYLATION IN THE PRESENCE OF PLATINUM
STYRENE COMPLEXES -U-

AUTHOR--(03)--REYKHSFELD, V.O., ASTRAKHANOV, M.I., KAGAN, YE.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 699

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM COMPLEX, ORGANOSILICON COMPOUND, STYRENE, CHLORINE,
METHYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/0883

STEP NO--UR/0079/70/040/003/0699/0699

CIRC ACCESSION NO--AP0124546

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0124546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF PHCH:CH SUB2 AND ITS
P,CL, P,O SUB2 N, P,ME, 2,4,ME SUB2, OR P,MED DERIVS. IN THE FORM OF PT
COMPLEXES OF TYPE (2PTCL SUB2) SUB2 WITH MESIHCL SUB2 IN PHSICL SUB3 AS
SOLVENT WAS STUDIED. THE PRESENCE OF ANY SUBSTITUENT IN THE STYRENE
COMPONENT INCREASED THE RATE OF REACTION IN THE ORDER H, P,CL, 2,4,ME
SUB2, P,ME, P,MEO IN THE SERIES OF LIGANDS. THE RATE OF HYDROSILYLATION
CAN BE RELATED TO HAMMET CONSTS. OF THESE SUBSTITUENTS BY A U SHAPED
CURVE WITH A MIN. AT THE STYRENE COMPLEX. THE INCREASE OF REACTION RATE
OF PHCH:CH SUB2 WITH MESIHCL SUB2 WITH INCREASING STABILITY OF THE PT
COMPLEX WITH THE INDICATED OLEFINS IS AN ARGUMENT IN FAVOR OF THIS
REACTION TAKING A HOMOGENEOUS CATALYTIC ROUTE ON PT CATALYSTS IN WHICH A
PT OLEFIN COMPLEX ACTS AS THE INTERMEDIATE.

UNCLASSIFIED

USSR

UDC 599.32:591.5

REYMOV, R. and KARABEKOV, M., Complex Institute of Natural Sciences, Kara-Kalpak Branch, Academy of Sciences, Uzbek SSR

"Morphological and Physiological Characteristics of the House Mouse and Short-Tailed Bandicoot Rat Under Different Ecological Conditions in the Amu-Dar'ya Delta"

Tashkent, Uzbekskiy Biologicheskii Zhurnal, No 4, 1971, pp 46-48

Abstract: House mice (*Mus musculus*) and short-tailed bandicoot rats (*Nesokia indica*) of natural and synanthropic populations are very much alike in the lower reaches of the Amu-Dar'ya. Both are found in great numbers in reed beds, tamarisk thickets, near ponds and irrigation ditches, sometimes in alfalfa fields, in orchards, and (the mice in particular) in human dwellings, warehouses, and other enclosed places. The relative weight of the internal organs of the mice and rats living under natural conditions is greater than that of the synanthropic animals and the cardiac, hepatic, and renal indexes are higher.

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USSR

UDC: 51:621.391

REYMOVA, O. F.

"On the Problem of Stability of an Optimum Basis"

Ufa, Mat. metody v ekon. issled.--sbornik (Mathematical Methods
in Economics Research--collection of works), 1971, pp 57-59 (from
RZh-Kibernetika, No 10, Oct 72, abstract No 10V508)

[No abstract]

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USSR

UDC 629.78.105.076.6

REYN, M. V.

"Concerning the Optimal Transfers, with Respect to Performance, of the Point With Variable Mass From an Elliptical Orbit to a Parabolic Orbit"

UCh. Zap. Tsentr. Aero-Gidrodinamich. In-ta (Scientific Notes of the Central Aerohydrodynamic Institute), Vol 2, No 3, 1971, pp 110-116 (from Referativnyy Zhurnal, Raketostroyeniye, No 12, Dec 71, Abstract No 12.41.97)

Translation: The article deals with the optimal passages, with respect to performance speed, of a point with variable mass under the influence of a constant controlling force from orbits of given energy to a parabolic orbit in a Newtonian gravitational field. The direction of the controlling force is selected as guidance, and by means of the principle of the maximum, the formulated optimization problem is reduced to a second-order boundary-value problem, which is solved on an electronic digital computer. It is shown that to each extremal solution of the transfer from an initial circular orbit, there correspond two extremal solutions of transfer from an initial elliptical orbit, the functional in one of the solutions changing monotonously as the initial eccentricity is increased, and there is an optimal value of the initial eccentricity. In the appendix is presented a general method of obtaining two

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- 15 -

USSR

UDC 621.375.4

BROVCHENKO, Ye. N., REYNBOT, A. Ye., DOVZHENKO, V. N.

"An Active Low-Frequency RC-Filter"

Kiev, Izvestiya VUZov Radiotekhnika, Vol 15, No 1, Jan 72, pp 130-132

Abstract: An active low-frequency RC-filter is described which realizes a fourth-order transfer function by using identical low-Q elements. The frequency response of the filter approximates a fourth-order Butterworth function which has a maximum Q at the poles of 1.31. The filter can be used in the frequency band up to 20 kHz. Nonuniformity of the frequency response in the passband of the filter is no greater than 3 dB, attenuation when tuned an octave off from the cutoff frequency is at least 20 dB, input impedance is at least 20 k Ω , output impedance is no more than 500 Ω , and the maximum input signal is 2V. The transfer function is given along with the coordinates of its poles. A schematic circuit of one possible realization of the filter is presented incorporating three MP15A transistors and a D814D diode. The sequence to be followed in tuning the filter is described. One figure, bibliography of one title.

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USSR

UDC 523.164

YESEPKINA, N. A., PETRUN'KIN, V. Yu., SOBOLEVA, N. S., and REYNER, A. V.

"Polarization Observations in an Antenna of Variable Profile"

Gor'kiy, Izvestiya VUZ--Radiofizika, Vol 14, No 3, 1971, pp 1149-1159

Abstract: A method is considered for eliminating parasitic polarization in antennas of variable profile through the use of a grid of curved wires. A description is also given of experiments performed at the Large Radiotelescope of the Pulkova Observatory to verify the effectiveness of the new design and the conclusions reached by the authors. Equations are derived for determining the shape of the grid wires on the basis of an earlier paper written by the first author named above (Radiotekhnika i elektronika, 6, No 12, 1961, page 1947). To design the grid, the authors use the focal synthesis method, in which the antenna is assumed to be excited by a plane wave with constant polarization. This permits determination of the field polarization at a given surface close to the focal plane. The grid which would permit the synthesis of the field distribution found by this method is then chosen. The authors thank G. M. Timofeyeva for her assistance, consisting of observation of solar circular polarization with the grid. The authors are connected with the Chief Astronomical Observatory.

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AA0040628

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 3-70

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234642 PLASTIC COMPONENT PRESS MOULD comprises a split case 1 with a runner and a demountable shaped cavity 2 made of rubber with a slit 3. The cavity is taken out from the carcass when the poured plastic is solidified, and is opened up along the slit.

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12

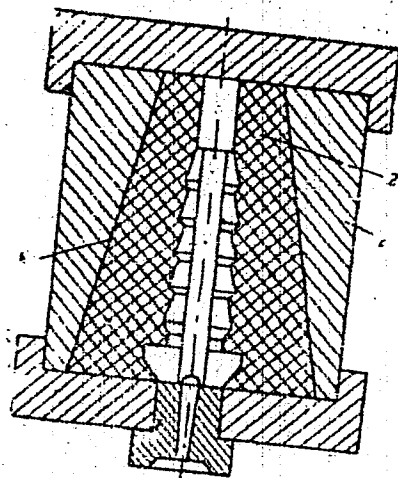
AUTHORS: Beylin, A. M.; Reynsburg, A. M.; Bondar', M. Yu.;
Ripman, D. M.; Bakunin, V. A.; and Golovkov, C. V.

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19750185

AA0040628



27.12.65. as 1045751/23-5, BEILIN, A.M. et al.
(26.6.69) Bul. 4/10.1.69. Class 39a² Int. Cl.
B 29c.

19750186

REYNYUK, G. I.

"Program for Expansion of Fields of Meteorological Elements into Series
Using a System of Generalized Spherical Functions"

Tr. Gl. Geofiz. Observ. [Works of Main Geophysical Observatory], No 289,
1971, pp 39-46, (Translated from Referativnyy Zhurnal, Kibernetika, No 3,
1972, Abstract No 3 V552 by the author).

Translation: An algorithm and program are presented for expansion of meteorological fields with respect to a system of generalized spherical functions. The Fourier coefficients are calculated using the Simpson formula. Programs for restoration are presented for the known spectrum for scalar and vector fields on a hemisphere and for the earth. The programs can be used: 1) for hydrodynamic prediction of weather; 2) in mathematical models of the general circulation of the atmosphere; 3) for spectral analysis of vector fields of the wind and tensor fields of turbulent stresses.

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REYS, B. E.

SO:JPAS 8/53402
12 JUNE 71

UDC: 614.23:616/618

SOME ASPECTS OF THE ORGANIZATIONAL WORK DONE BY A HEAD SPECIALIST AT AN
OBLAST DEPARTMENT OF PUBLIC HEALTH

McGowan

[Article by B. E. Reysh, Honored Physician of Kazakh SSR, East Kazakhstan
Oblast Department of Public Health (headed by L. K. Dotsenko), Ust'-Kamenno-
yorsk; Moscow, Sovetskaya Zdravoohraneniye, Russian, No 5, 1971, submitted
15 September 1970, pp 11-13]

More than 20 years have passed since the Institute of Head Specialists was organized in public health agencies. In view of the specialization of services and considerable growth of the network of therapeutic and prophylactic institutions their operation has altered considerably. Under such circumstances the forms and methods of administration effected by chief specialists could not help but also become altered.

In addition to the chief surgeon of the oblast department of public health, there appeared a considerable number of so-called non-staff head specialists in various surgical fields. However, their role in administration of the service remained negligible. More often they emerged in the role of consultants. The lack of coordination of their activities in the did not help them resolve successfully the tasks imposed upon them. At the same time, the considerable expansion of the network of surgical institutions does not permit the chief surgeon to visit all of them.

In 1964, in our quest for more rational means of administering the surgical service, we organized a surgical council at the oblast department of public health whose function was to investigate the incidence of surgical pathology in the oblast, to supervise the activities of all surgical institutions, to investigate the causes of postoperative complications and deaths, and to initiate measures to reduce them, to develop recommendations for further development of the service. The decisions adopted by the council are approved by the head of the oblast department of public health. Their implementation is mandatory for all public health and therapeutic institutions administrators in the oblast.

All of the non-staff head surgical specialists (orthopedist-traumatologist, urologist, chestnologist, neurosurgeon, etc) were included in the

PHYSICIAN

USSR

MILYUKOV, Ye. M., REYSHAKHRIT, A. I., TOLSTOY, M. N.

"Liquation Nature of Activator Segregation in Glasses"

Leningrad, Fizika Tverdogo Tela, Vol 12, No 2, 1970, pp 525-527

Abstract: There is no data on liquation which may cause changes in the structure of alkali-germanate glasses appearing with variations in the spectroscopic characteristics of neodymium due to changes in the state of the glass. This paper obtains this data by making and studying electron microscope photographs which had been spectroscopically investigated in an earlier article. The photomicrographs show that for small alkali metal content, the nature of the nonuniformities is typical of glasses which have undergone microliquation. Five such photomicrographs are reproduced, each for a different composition of Na_2O and GeO_2 . The results show that the conclusions drawn in an earlier paper co-authored by two of the writers of the present article (Reyshakhrut and Tolstoy, ZhPS, Vol 12, No 3, 1970) are valid; the conclusions of the earlier article were obtained on the basis of spectroscopic researches. In this paper, the authors conclude that the division of the glass into phases under the microliquation conditions

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- 47 -

USSR

MILYUKOV, Ye. M., et al., Fizika Tverdogo Tela, Vol 12, No 2, 1970, pp 525-527
is accompanied by activator segregation, which can be expressed by changes in its spectroscopic characteristics. They note also that the concept of micro-heterogeneity in the glass structure may explain the formation of multityypical luminescence centers within the limits of the nonuniform widening of the spectral lines.

2/2

ACC. Nr:

AP0049912

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
UR 0181

103299v Liquation nature of activator segregation in glasses.
Milyukov, E. M.; Reishakhrit, A. L.; Tolstoi, M. N. (USSR).
Fiz. Tverd. Tela 1976, 18(3), 625-7 (Russ). From the study of
electron microscopic photographs of alkali germanate glasses of
variable compn., activated with Nd, microliquation was
inferred. Sepn. into 2 phases increases as the content of alkali
oxide decreases, independently of the nature of the latter. At
the same time, the fraction of the strongly alk. glass phase
decreases. The phase sepn. under the conditions of micro-
liquation leads to segregation of the activator. A. Libackyj

REEL/FRAME
19801848

USSR

UDC 621.317.725

GORELikov, N. I., REYTBURG, M. Ya., FIGUROVSKIY, Ye. A., TSETENS, V. P.
"Use of Resistive Circuit Elements in High-Speed Automatic Digital
Voltsmeters"

V sb. Mikroprovod i pribory soprotivl. (Microwire and Resistance Devices
--collection of works), vyp. 7, Kishinev, 1971, pp 160-164 (from RZh-
-Radiotekhnika, No 8, Aug 71, Abstract No 8A299)

Translation: The authors consider the use of serially produced resis-
tive circuit elements in the digital-analog converters of microminiature
automatic digital voltmeters. The relations between some character-
istics of such voltmeters of the balanced type and the parameters of
individual elements of the converters are discussed. Recommendations
are presented relative to the use of given elements. A. K.

1/1

- 57 -

USSR

REYTER, E. M. and KAZANSKAYA, T. M.

UDC: 621.318.13

"UHF Ferrite Operation Near the Natural Ferromagnetic Resonant Frequency Region"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering, Scientific-Technical Collection, Ferrite Techniques)
1970, No. 4(26), pp 7-12 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3B171)

Translation: The behavior of UHF ferrites at various frequencies with changes in the magnetizing field is examined. Resume

1/1

Acc. Nr:

AP0034209

Abstracting Service:
CHEMICAL ABST. 4-70

Ref. Code:
UR 0078

R

71274q Stability of complexes of zinc and cadmium with ethanoamines in aqueous solutions. ~~Edovenko, V. V.; Refer. Zh. Neorg. Khim. 1970, 15(1), 97-102 (Russ). Complex formation of Zn(II) and Cd(II) with $\text{HOC}_2\text{H}_4\text{NH}_2$ (L), $\text{HOC}_2\text{H}_4\text{NH}$ (L'), and $\text{HOC}_2\text{H}_4\text{N}$ (L'') was studied by pH-potentiometry in aq. solns. The instability const. (pK_1) of Zn complexes were 2.62, 2.38, and 2.58 and of Cd complexes 2.67, 2.46, and 3.15 for L, L', and L'' complexes, resp. It is assumed that the investigated ligands coordinate via O along with the coordination via N atom. The metal-O bond becomes stronger in the order of ligand: $\text{L} < \text{L}' < \text{L}''$.~~
HMJR

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REEL/FRAME
19710862

di

Coatings

USSR

UDC 678.742:678.01:53

KORYUKIN, A. V., KOROLEV, A. YA., REYTLINGER, S. A., and A GUDIMOV, M. M.,
All-Union Institute of Aviation Materials

"Effect of the Adhesion Properties of a Polymer on the Formation and Gas
Permeability of Metallized Polymer Films"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9, No 6, 1973, pp 53-55

Abstract: A study was made of the gas permeability of metal coated polymer films, and the relationship of gas permeability to the magnitude of adhesion of the metal layer to the polymer film was established. Aluminum coatings were deposited on inert polymers PTFE (polytetrafluoroethylene) and (polyethylene) PE and polar polymers PI (polyimide) and (polyethyleneterephthalate) PETF where it was noted that the coefficient of gas permeability of the aluminum coating was on the order of 1-3 times greater for the inert polymers, which leads to the conclusion that inert polymers are more porous. The greatest aluminum coating adhesion strength was noted on the polar polymers (43.0 kgf/cm² for PETF and 20.7 kgf/cm² for PI). The low adhesive strength of aluminum coatings on PTFE and PE polymers is due to the ease with which the metal atoms can migrate to the substrate surface and form coarse

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USSR

KORYUKIN, A. V., et al., Fiziko-Khimicheskaya Mekhanika Materialov, Vol 9,
No 6, 1973, pp 53-55

crystal structures with increased porosity. The adhesive strength of Al
films on inert polymers can be increased by modifying (chemically) the sur-
face layer on PTFE with a sodium-naphthalene complex and PE -- with a
chromium mixture to make the surface of these polymers functionally
adhesively active. Two tables, seven bibliographic references.

2/2

- 6 -

Acc. Nr:

AP00049799

Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:

4180135

R

2

101593n Determining the gas permeability of rubber goods.
Gaziev, G. A.; Barkov, A. S.; Sotnikov, E. E.; Faustova, D. G.;
Guskova, N. J.; Reifinger, S. A. (Inst. Biofiz., Moscow, USSR).
Kauch. Rezina 1976, 29(1), 50-2 (Russ). Gas chromatog. was
used to det. the permeability to N, H, and CO₂ of polychloro-
prene (I), natural rubber (II), or containers made of I or II bond-
ed with adhesive SV-1. The method is suggested for testing the
quality of bonded joints between plastics. CPJR

+

REEL/FRAME
19801721

7 92

USSR

YEFIMOV, A. T., REYTMAN, E. Ya.

"A Wide-Band Circulator"

R UDC: 621.372.832.8*928.6)

USSR Author's Certificate No 251031, filed 17 May 68, published 3 Feb 70 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7B167 P)

Translation: The proposed circulator based on a strip-type Y-split contains a magnetic system, a ferrite disc and a disc made of an electrically conductive material located on opposite sides of the central conductor of the split. The working frequency range is expanded by making the electrically conductive disc with a diameter which varies with height. One illustration. Resumé.

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USSR

UDC 621.762

3

FEDORCHENKO, I. M., OGNEV, R. K., KOLOMOYETS, G. G., ANOKHIN, V. M.,
REYTSSES, V. B., KAZANTSEVA, N. A., and RUTBERG, V. P.

"The Effect of Aluminum and Molybdenum on the Properties of Sintered
Titanium at Room and Elevated Temperatures"

Moscow, Metallurgiya i Khimiya Titana (Institut Titana), Metallurgiya
Publishing House, Vol 6, 1970, pp 111-116

Translation: Results are given from research on the mechanical properties
of the alloys titanium-aluminum, titanium-molybdenum, and triple alloys
titanium-aluminum-molybdenum at room temperature and at temperatures raised
to 300°C. The alloys were obtained by mechanical blending of powders. After
compacting and sintering one time, the alloys studied had a tensile strength
up to 80 gigacalories/mm² and elongation per unit length of 5-15%. Alloy-
ing aluminum and molybdenum increases the heat resistance of sintered
titanium alloys; the short-term strength at 300°C increases by more than
two times. The stress-rupture strength increases significantly during
alloying. Four illustrations, one table, and four bibliographic entries.

1/1

- 65 -

USSR

UDC: 621.375.9:535

BEREZOVSKIY, V. V., BYKOVSKIY, Yu. A., GONCHAROV, M. I., REZ,
I. S.

"Coefficients of Nonlinear Polarization of Proustite and Tel-
lurium"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972,
pp 105-107

Abstract: Measurements are made of the effective coefficients of nonlinear polarization $d_{11} \sin \theta_m + d_{22} \cos \theta_m$ with pumping propagation in the positive crystallographic quadrant, and the coefficient of nonlinear polarization of tellurium d_{11} with regard to the width of the pumping spectrum (10.6 μm). Pumping was done by a CO_2 laser in single-mode operation with Q-switching. The authors thank S. S. Shalyt and I. I. Farbshteyn for furnishing the high-quality tellurium specimens. Bibliography of twelve titles.

1/1

- 49 -

REZANOY, I. A.

Geology

Geology

1972

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

Social Sciences

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

I. A. Rezanov. *Geology of the Kola Peninsula*. Moscow, 1972. 116 pages with 111, 112 copies, 24 k.

USSR

VINOKUROV, V. G., DIMITRIYEV, Yu. K., YEVREINOV, E. V., KOSTELYANSKIY, V. M.,
LEKHNOVA, G. M., MIRENKOV, N. N., REZANOV, V. V., KHOROSHEVSKIY, V. G.

"A Homogeneous Computer System of Minicomputers"

Vychisl. Sistemy [Computer Systems -- Collection of Works], No 51, Novosibirsk,
1972, pp 127-145 (Translated from Referativnyy Zhurnal Kibernetika, No 6,
1973, Abstract No 6V600, by the authors).

Translation: The expediency is demonstrated of constructing homogeneous com-
puter systems (HCS) of minicomputers. A two-dimensional computer system, the
MINIMAKS is described. The elementary machines of this system are based on
ASVT-M modules. The composition of typical HCS software is presented. 20
biblio. refs.

USSR

UDC 681.142.4

MARGULIS, D. S., ~~REZANOV, V. V.~~ and SAVVOV, V. I.

"Series of Videoterminal Devices for Third-Generation Computers"

Kiev, Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 4, 1971, pp 50-53

Abstract: This article is concerned with using the latest technical achievements to develop terminal devices and to carry out lengthy investigations of their design and use. The graphic data-display station consists of the following modular assemblies: a graphic cathode-ray display and an input block and information editor. This cathode-ray display is designed to convert coded messages from the computer into a visual equivalent in the form of points, segments of lines, circles or arcs, and symbols on the display screen. A system of information words is used to code the information. The authors graphically depict the mode of points and define the use of the two information words employed for this purpose. The vector mode is also shown graphically and described, the first pair of coordinates referring to the initial point. The first word has a content similar to the first word of the point mode, differing in that the operational characteristic is coded as 010. The fixed increment mode permits the authors to reproduce arbitrary

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USSR

MARGULIS, D. S., et al., Mekhanizatsiya i Avtomatizatsiya Upravleniya, No 4, 1971, pp 50-53

curves and to approximate them by a broken line with fixed intervals and a limited number of directions. The symbol mode permits reproduction of alphanumeric and symbolic information, beginning from an arbitrary point of the frame. The circle mode permits the reproduction of circles and arcs. The authors list in detail the composition of the vacuum-tube graphic display and group of possible editing operations. The article contains three figures.

2/2

- 23 -

REZBAJEV, A.F.

BCG Test in
Identifying
Tuberculosis Allergy

J-9605

97

EX 616-002, 5-071

IMPORTANCE OF BCG TEST IN IDENTIFYING
TUBERCULOSIS ALLERGY

A. F. REZBAJEV, Lieut.-Col., Medical Service

10: Military Medical Service
444 Nov 1971

A lowered sensitivity to tuberculin among the population — including those suffering from tuberculosis — has been noted in recent years. The search for more sensitive methods in the identification of tuberculin allergy has led to the attempt to use — besides

For six years, we have been conducting observations to compare the degree of pronounced reaction in 516 tubercular patients and 390 healthy persons. The age and sex composition of the two groups was identical. The reactions were being carried out in 2 parallel manner: — into the left, both the epiconchous and the intracutaneous methods were used. The results were evaluated after 48 hours and after 7 days. The reaction to tuberculin and to the intracutaneous introduction of the BCG vaccine was assessed on the basis of the following scales: papules having a diameter of from 5 to 10 mm. were regarded as a "weak reaction"; papules from 10 to 15 mm. constituted a "positive reaction"; papules of more than 15 mm. were seen as a "sharp positive reaction". The epiconchous BCG test was rated as a "weak reaction" if from 5 to 10 mm. were seen as a "positive reaction" and above 10 mm. — it was an "acute positive reaction". The BCG tested in 318 persons suffering from tuberculosis and in 211 healthy persons. The results, expressed in terms of percentages, are shown below, in Table 1.

Table 1.

Type of test	Patients				Healthy persons			
	neg- live reac- tion	mid live reac- tion	post- live reac- tion	acute live reac- tion	neg- live reac- tion	mid live reac- tion	post- live reac- tion	acute live reac- tion
Percentage reaction...	28.4	47.6	23	1	30	50	10	2
BCG test.....	16	38	45.3	0.7	23.5	53.5	23	0

USSR

KOBRIN, M. M., REZCHIKOV, A. S., ROYTSHEYN, M. M.

"Increasing the Fatigue Strength of Welded Elements in Prestressed Guy Structures"

III Mezhdunar. Konf. Po Predvarit. Napryazh. Metal. Konstruktsiyam., T. 3, [Third International Conference on Prestressed Metal Structures, Volume 3 -- Collection of Works], pp 130-140. (Translated from Referativnyy Zhurnal Mekhanika, No 1, 1972, Abstract No 1V1178 by Ya. M. Ayzenberg).

Translation: A description is presented of typical forms of bending of mechanical Guy parts. Changes are suggested in the design of equipment in order to increase the endurance and reliability under cyclical operating loads. Results are presented from experimental tests of the effectiveness of structures suggested and technological measures performed at the Central Scientific Research Institute of Structural Parts imeni V. A. Kucherenko. It is concluded that consideration of the actual operating conditions of structures during planning by shifting of welded seams to the least stressed areas, as well as strain hardening and working of seams can increase the reliability of mechanical parts in prestressed Guy structures significantly. The method suggested are recommended also for increasing the reliability of other types of prestressed structures.

1/1

- 51 -

1/2 007
TITLE--ECONOMIC ENCOURAGEMENT OF STANDARDIZATION IN SITUATION PRODUCED BY
ECONOMIX REFORM -U-
AUTHOR--REZCHIKOV, V.I.
COUNTRY OF INFO--USSR
SOURCE--STANDARTY I KACHESTVO, 1970, NR 3, PP 51-53
DATE PUBLISHED--70
SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS--INDUSTRIAL STANDARD, ECONOMIC SYSTEM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1986/1744
CIRC ACCESSION NO--AP0103508
STEP NO--UR/0422/70/000/003/0051/0053
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0103508

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DISCUSSES THEORETICAL AND PRACTICAL PROBLEMS OF ECONOMIC ENCOURAGEMENT OF WORKS IN STANDARDIZATION. SOME OF THE QUESTIONS RAISED ARE DISPUTABLE, BUT THEY ARE AIMED AT ENSURING AN EVER MORE IMPORTANT ROLE OF ECONOMIC STIMULI IN THE PROCESS OF INCREASING THE EFFICIENCY OF STANDARDIZATION.

UNCLASSIFIED

USSR

UDC 546.763'171.1:538.22

AYVAZOV, M. I., DOMASHNEV, I. A., GUROV, S. V., and REZCHIKOVA, T. V.,
Institute of New Chemical Problems, Academy of Sciences USSR

"Electrophysical and Magnetic Properties of Chromium Nitride"

Moscow, Neorganicheskiye Materialy, Vol 9, No 4, Apr 73, pp 600-603

Abstract: The electric conductivity, thermal emf, Hall effect, magnetic resistance, and magnetic susceptibility of CrN over a wide temperature interval were investigated. It was found that CrN is a more ionic compound than nitrides of titanium and vanadium. Amplification of the ionicity percentage in M-X interactions leads to realization of the system of spin-polarization electron states. A phase transition was observed at 290°K to CrN^{0.98} which was associated with the trigonal distortion of the crystal lattice. 3 figures, 10 bibliographic references.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NATURE OF NON STOICHIOMETRIC DEFECTS IN TITANIUM NITRIDE PHASES OF
VARIABLE COMPOSITION -U-
AUTHOR-(04)-AYVAZOV, M.I., DOMASHNEV, I.A., SARKISYAN, A.G., REZCHIKOVA,
T.V.
COUNTRY OF INFO--USSR
SOURCE--IZVEST. AKAD. NAUK SSSR, NEORG. MATERIALY, APR. 1970, 6, (4),
745-749
DATE PUBLISHED----APR70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CRYSTAL LATTICE DEFECT, TITANIUM COMPOUND, NITRIDE, ELECTRIC
PROPERTY, METAL OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/1449 STEP NO--UR/0363/70/006/004/0745/0749
CIRC ACCESSION NO--AP0130382
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130382

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NATURE OF THE NON STOICHIOMETRIC DEFECTS OCCURRING IN TIN SUBX PHASE OF VARIABLE COMPOSITON (X EQUALS 0.6-0.96) WAS STUDIED AND CORRELATED WITH CORRESPONDING CHANGES IN THE ELECTRO PHYSICAL PROPERTIES, AS WELL AS WITH ANALOGOUS CHANGES TAKING PLACE IN OXIDE PHASES. THE NON STOICHIOMETRIC DEFECTS TENDED TO CHANGE THE EFFECTIVE MASSES OF THE CARRIERS IN THESE COMPOUNDS; LOCAL CARRIER CONCENTRATIONS ALSO DEVELOPED AND ANOMALOUS ENERGY GAPS APPEARED.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--AUTOIMMUNE REACTIONS IN SOME OCCUPATIONAL DERMATOSES AND THEIR
DYNAMICS DURING PYROGENAL THERAPY -U-
AUTHOR--(02)-GETMANETS, I.YA., REZENKINA, L.D. R
COUNTRY OF INFO--USSR
SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 3, PP 96-99
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PYROGEN, INDUSTRIAL HYGIENE, DERMATOSIS, IMMUNITY, ANTIBODY,
TEST, ERYTHROCYTE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1687 STEP NO--UR/0497/70/048/003/0096/0099
CIRC ACCESSION NO--AP0129057
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129057

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OUT OF 188 PATIENTS WITH OCCUPATIONAL ECZEMA, ALLERGIC DERMATOSIS, TOXIDERMIA, AND URTICARIA AND IN 55 HEALTHY BLOOD DONORS THE AUTHORS DETERMINED THE C-REACTIVE PROTEIN, ANTI ERYTHROPOIETIC ANTIBODIES IN ACCORDANCE WITH TRYPSINIZED ERYTHROCYTES, DIRECT AND INDIRECT COOMBS' TEST AND ANTIDERMAL ANTIBODIES AFTER BOYDEN'S PASSIVE HEMAGGLUTINATION REACTION. C-REACTIVE PROTEINS AND THE REFERRED TO AUTOANTIBODIES WERE REVEALED IN A PART OF CASES WITH OCCUPATIONAL DERMATOSIS AND RARELY OR ABSENT IN DONORS. THERE WERE NOTED DIFFERENCES IN THE FREQUENCY OF AUTOIMMUNE REACTIONS IN PATIENTS WITH ECZEMA AND DERMATITIS. ALTERATIONS IN THE PROCESS OF PYROGENAL THERAPY WERE STUDIED IN 50 PATIENTS SUFFERING FROM OCCUPATIONAL ECZEMA. ALONG WITH NORMALIZATION OF THE SKIN PATHOLOGICAL PROCESS IN THE MAJORITY OF PATIENTS THERE TAKES PLACE A NEGATIVATION OR REDUCTION OF THE TITER OF AUTOIMMUNE REACTIONS. FACILITY: KHAR'KOVSKIY NAUCHNO-ISSLED. INST. GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--AN ATOMIC ABSORPTION METHOD FOR THE DETERMINATION OF GOLD IN
ELECTROLYTES -U-
AUTHOR-(02)-SASOV, V.N., REZEPINA, V.A. *R*
COUNTRY OF INFO--USSR
SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA
KHIMICHESKIKH NAUK, 1970, NR 2, PP 107-110
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--GOLD, CHEMICAL ABSORPTION, ELECTROLYTE, CHEMICAL ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1993/0586 STEP NO--UR/0289/70/000/000/0107/0110
CIRC ACCESSION NO--AP0113477
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0113477

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE INTERFERENCE OF NH SUB4 CNS,
(NH SUB2) SUB2 CNS, NaOH, CUC1 SUB2, HCl AND H SUB2 SO SUB4 HAS BEEN
INVESTIGATED IN THE ABSORPTION OF THE ANALYTICAL LINE AU-2428 ANGSTROM.
ATOMIC ABSORPTION METHOD IS SUGGESTED FOR THE DETERMINING OF GOLD IN
ELECTROLYTES OF THE DIFFERENT CHEMICAL COMPOSITION. THE SENSITIVITY OF
THE METHOD IS ABOUT 1 MU G-ML, THE VARIATION COEFFICIENT IS ABOUT
1-4PERCENT.

FACILITY: INSTITUT FIZIKO-KHIMICHESKIKH OSNOV
PERERABOTKI MINERAL'NOGO SYR'YA SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

Microbiology

USSR

UDC 615.372.576.851.553

DRACHENNIKOV, V. I., GOLSHMID, V. K., REZEPOV, F. F., and CHENTSOVA, O. I.,
State Control Institute imeni Tarasevich and Moscow Institute of Vaccines
and Sera imeni Mechnikov

"Immunochemical and Biological Characteristics of Botulinus Type A Toxoids.
II"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1971,
pp 12-18

Abstract: DEAE-cellulose chromatography revealed that the specific antigen of botulinus type A toxoids is heterogeneous in physicochemical properties. Separation of the toxoids on DEAE-cellulose yielded a fraction containing over 50 percent of the total antigenic activity and free from nucleic acids and pigments. Its specific activity was almost double that of the original preparation. No relationship was found between the charge of the specific molecules of the toxoids and their molecular weight. Purification of the toxoids on DEAE-cellulose resulted in removal of the ballast substances with no impairment of the immunogenic properties of the active fraction.

1/1

USSR

UDC 576.858.25.083.35

REZEPOVA, A. I., KUZ'MINA, S. V., KULIKOVA, K. S., and UNANOV, S. S., Moscow
Scientific Research Institute of Virus Preparations, and Institute of
Biophysics, Academy of Sciences USSR

"Propagation of Some Arboviruses in New Transplanted Lines of Mouse Fibro-
blasts"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 704-707

Abstract: Embryonic fibroblasts of mice constitute a useful culture medium for hemagglutinating arboviruses. Though no formation of hemagglutinins occurs in the parent cells, in successive fibroblast lines hemagglutinins are produced in ample amounts by the following encephalomyelitis arbovirus strains: WEE, Sindbis, Semliki Forest, and Chikungunya (group A), and tickborne, Japanese, West Nile, St. Louis, Ntaya, Bun'yamvera, and Omsk hemorrhagic fever (group B). These hemagglutinin preparations can be used to test the toxicity of the various arbovirus strains and to identify the arbovirus antibodies which were recently detected in human serum throughout the USSR.

1/1

- 37 -

REZGOL', I. A.

TECHNICAL TRANSLATION

FSTC-RT-23-1439-71

ENGLISH TITLE: Method of Determining the Thermoelectrical Quality Factor of the Thermobattery.

FOREIGN TITLE: Spособ Opredeleniya Termoelectricheskoy Kachestvennosti Termobattarei.

AUTHOR: I. A. Rezgol',
~~XXXXXXXXXXXXXXXXXXXX~~

SOURCE: Committee of Patents and Inventions
at the Council of Ministers of USSR.

Translated for FSTC by Leo Kanner Associates, Redwood City, Ca.
(Bekech)

NOTICE

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USSR

UDC 613.68(98)

SERGEYEV, Ye. P., MATSEVICH, L. M., and REZINA, Yu. I., Institute of Water Transport Hygiene, USSR Ministry of Health, Moscow

"Current Problems in the Work Hygiene of Seamen Under Arctic Conditions and Some Ways of Solving Them"

Moscow, Gigiyena i Sanitariya, No 7, 1973, pp 12-16

Abstract: A variety of factors are stressful and a threat to the health of seamen and officers on ice breakers and merchant ships plying Arctic waters. These include insufficient ultraviolet light (due to cloudiness, frequent fogs, and cold which keeps the men indoors much of the time), constant high noise and vibration levels, excessive heat and inadequate ventilation in some work areas, high-frequency and ultrahigh-frequency electromagnetic fields produced by radionavigation apparatus, need for constant alertness to avoid colliding with other ships in a convoy or hitting an iceberg, and disruption of circadian rhythms because of changing work shifts. Rearranging work and rest routines, installation of air conditioning equipment, redesign of portions of the ship's interior, and shortening the duration of cruises are some of the measures recommended to improve the situation.

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UDC 911.3:616.981.452(470.45)

PAVLENKO, Z. S. and REZINKO, D. S.

"History of Elimination of Plague Enzootics in the Volgrad Region"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of Works), Saratov, No 4(14), 1970, pp 213-216 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.117)

Translation: The history of study of the plague in the northwestern Caspian region is presented. Results of work of the antiplague service in the eradication of natural foci are reported. The last plague epizootic was recorded in 1934 in the Kotel'nikovskiy rayon. Sanitation of the focus became possible because of plowing virgin soils, the establishment of water reservoirs, the development of irrigation farming, and other methods.

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1/2 027 UNCLASSIFIED
TITLE--EXPERIENCES IN JEJUNOGASTROPLASTY -U- PROCESSING DATE--18SEP70
AUTHOR--(03)-ZAKHAROV, YE.I., REZNICHENKO, A.I., BELOUS, G.D.
COUNTRY OF INFO--USSR
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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054073

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ISSUE SUMMARIZES THE RESULTS OF 1811 OPERATIONS FOR GASTRODUODENAL ULCERS, TUMORS AND DISEASES OF THE OPERATED STOMACH, IN 576 CASES WITH JEJUNOGASTROPLASTY. PRIMARY JEJUNOGASTROPLASTY WAS PERFORMED IN 221 PATIENTS WITH GASTRODUODENAL ULCERS AND IN 168 PATIENTS WITH BENIGN AND MALIGNANT TUMORS OF THE STOMACH. RECONSTRUCTIVE JEJUNOGASTROPLASTY WAS PERFORMED IN 125 PATIENTS WITH THE DUMPING SYNDROME AND IN 62 PATIENTS WITH PEPTIC ULCERS. AN ANALYSIS OF THE IMMEDIATE AND REMOTE RESULTS DEMONSTRATES THAT JEJUNOGASTROPLASTY DOES NOT INVOLVE AN INCREASED FREQUENCY OF IMMEDIATE COMPLICATIONS AND LETHALITY IN COMPARISON WITH BILLROTH 2 OPERATION, THUS ENABLING IN THE FUNCTIONAL RESPECT TO ATTAIN MORE FAVORABLE RESULTS.

UNCLASSIFIED

REZNICHENKO, I. Z.

CHEMICAL DESIGN CONSTR.

WIR. NOTE 241

Design Buildings With Set Service Life Periods.
Article by I. Z. Reznichenko, Member of the Board of the Ministry of Chemical Industry, Moscow, Engineering Structures, Moscow, No. 8, August 1973, p. 231.

Chemical Design Constr.

The authors of the physical wear of buildings and structures are analysed and plan specific ways to eliminate incompleteness of repair and work at the various stages of designing, building, and maintenance.

The following should be provided for a fundamental improvement in the construction and maintenance of industrial buildings and structures:

- a - raising the quality of materials, items, and construction elements delivered for construction;
- b - improving the joining of the elements of assembled reinforced concrete constructions, raising their reliability (primarily resistance to corrosion and reducing metal and work consumption in the work);
- c - the development of reinforced concrete constructions with a higher corrosion resistance through the use of special additives to the concrete and the use of polymer concrete depending on the external medium and the maintenance conditions of the construction elements and structures;
- d - the delivery of efficient filler and so forth to construction by industry.

Reducing wear rates, the development of long-life structural constructions, and a fundamental improvement in the maintenance of industrial buildings and structures, as mentioned by the article's authors, represent a vital and urgent national economy problem whose solution must be implemented through the joint efforts of specialists in the various fields of knowledge.

The current and future periods of industrial development are characterized by increasing rates of technical retooling not only in individual sub-branches but throughout the entire chemical industry branch and to successfully raise the technical level of industrial construction should be the transition to the construction of buildings and structures which can be easily and quietly transformed as a result of improvements in the technological processes and basic equipment.

The data from many years of experience in the operation of industrial structural elements functioning on open platforms as well as in the closed buildings for 20 years and more. And as the present day, when the buildings and structures of many production branches are not obsolete, operation of new production branches can be redesigned or partially used for the

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UDC 8.74

REZNICHENKO, L. L., STEPANOV, V. P.

"A Queueing Problem"

V sb. Sistemn. modelirovaniye (Systems Simulation -- collection of works), vyp. 2, Novosibirsk, 1971, pp 51-57 (from RZh-Kibernetika, No 9, Sep 72, Abstract No 9V621)

Translation: A study was made of the operation of a system for two-step servicing of a given set of requests during a fixed time interval $[0, T]$. The requests have a pair of numbers τ and θ giving the beginnings of the times of primary and secondary servicing. Inside the interval $[0, T]$ there can be intervals during which the servicing of the requests is completely or partially forbidden. Certain restrictions presented below are imposed on the queue of requests.

It is necessary to organize the servicing of the requests for which it is possible to place the maximum number of them in the interval $[0, T]$.

A procedure is proposed in the paper for arrangement of the requests which is obviously close to optimal. The results of solving a specific problem describing the operation of the dispatcher service of an airport are presented.

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USSR

BONDAR, A. A., REZNIK, A. M.

"Analog Model of a Neuron Net with Distributed Memory"

Probl. Bioniki. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb. [Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection], 1972, No 9, pp 97-105 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V725, by the authors).

Translation: The operation of a neuron network with random organization is analyzed. A model is suggested for learning in neuron networks of analyzers. 14 biblio. refs.

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USSR

Titanium

UDC 669.295.31

REZNICHENKO, V. A., MENYAYLOVA, G. A., KARYAZIN, I. A., KHALIMOV, F. B.,
VOROBEYCHIK, A. I., and KIPRICH, N. A., Moscow

"Phase Transformations in the Process of Oxidation of High-Titanium Slag"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, 1973, pp 48-54

Abstract: The crystallo-optical method was used in a study of the processes taking place in the oxidation of a solid solution of anosovite, the principal phase of high-titanium slags. During the oxidation of high-titanium slags, crystallo-chemical transformations occur, during heating, in the anosovite lattice; below 400°C , oxidation reactions take place in titanium of lowest valencies in Ti^{4+} with TiO_2 -separation in form of an independent phase; above 500°C , Fe^{2+} oxidizes to Fe^{3+} and the products of the reaction form with a part of free rutile a solid solution on the base of pseudobrookite ($\text{Fe}_2\text{O}_3 \cdot \text{TiO}_2$) lattice. The phase transformations in the case of maximum oxidation of anosovite by the oxygen of air and water vapors at 700°C and higher temperatures show a similar character: the reactions take place topochemically with the final formation of rutile and the solid solution on the base of pseudobrookite lattice. Three figures, three tables, 19 bibliographic references.

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USSR

UDC 539.374

ROYTMAN, A. B., KUDRICHENKO, G. P., and T. A. REZNIXHENKO (Zaporoz'ye)

"Increasing the Corrosion Resistance of Parts Made of Alloys 2Kh15N3M-Sh and 1Kh17N2 by Magnetization"

Kiev, Problemy Prochnosti, No 9, Sep; 73, pp 82-85

Abstract: Results are presented of tests conducted on specimens made of alloy 2Kh15N3M-Sh and blades of the eighth and tenth stages of a gas-turbine compressor, made of steel 1Kh17N2 and preliminarily magnetized, on corrosion resistance and fatigue strength. Magnetization of the specimens and blades was conducted in a magnetic field of 350-400 oersted to the limit value. On the basis of the obtained results, conclusions were drawn concerning the positive influence of magnetization upon the corrosion resistance of the indicated alloys, confirmed by statistical analysis. 3 figures. 5 tables, 3 references.

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Titanium

USSR

UDC 669.295'28.3

REZNICHENKO, V. A., MOYNOV, S. G., MAKAROV, S. B., IVANOV, A. N., and ORLOVA, N. V., Moscow

"Study of the Process of Alloy Formation by the Joint Magnesiothermal Reduction of Titanium and Molybdenum Chlorides"

Moscow, Izvestiya Akademii Nauk SSSR Metally, No 1, Jan/Feb 74, pp 27-30

Abstract: Results are presented from studying the formation of alloys by the joint reduction of titanium and molybdenum chlorides and subsequent vacuum separation of the reaction masses. The phase composition of the reduction products was a mixture of alpha-titanium and two body-centered cubic, titanium-molybdenum-base solid solutions and it was determined that the alpha-titanium is formed directly in the reduction process and not during the vacuum separation process at 850 to 1000° C. Extended soaking of the reaction masses at 800-850° C after reduction did not change phase composition of the produced metal. Evidently, particles of the b.c.c-solid solutions and alpha-Ti in the reaction mass were separated from each other by sublayers which hindered diffusion equalization of the concentration. After complete vacuum separation at 1000° C it was established that the main phase constituent is the b.c.c-solid solution which contains about 35% Mo in the titanium. One figure, two tables, one bibliographic references.

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USSR

UDC 669.295.31

KARYAZIN, I. A., REZNICHENKO, V. A., KHALIMOV, F. B., VOROB'EYCHIK, A. I.,
MENYAYLOVA, G. A., KIPRICH, N. A., and GORDEUCHIK, R. A., Moscow

"Oxidation of High-Titanium Slag on Heating in Atmospheres of Air and Water
Vapors"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 37-43

Abstract: An experimental study was made of the oxidation of high-titanium slag of various fractional compositions and containing 10-12% FeO on heating up to 1000°C in air and in water vapor atmospheres. The oxidation dependences of titanium slag on the type of the oxidizing medium (oxygen of air, water vapor) and the temperature and size of slag comminution are discussed by reference to diagrams. The oxidation rate of slag in air was found to be considerably higher (twice as high at 700°C) than in water vapors. Under conditions of complete oxidation at temperatures from 300 to 1000°C, the highest oxidation degree is attained at 700°C, yielding in both oxidizing media products of similar chemical composition. On heating up to 700°C, the oxidation process of slag proceeds in two stages; the first is determined by a selective oxidation of titanium of lower valencies (below 400°C), and the second stage begins at temperatures over 500°C and depends on intensive oxidation of bivalent iron. Three figures, one table, ten bibliographic references.

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USSR

UDC 669.018.45.4

REZNICHENKO, V. A., Moscow

"Investigations on Metallurgy, Chemistry, and Electrochemistry of High-Melting Metals"

Moscow, Akademiya Nauk SSSR. Izvestiya. Metally, No 6, Nov-Dec 72, pp 5-18

Abstract: A state-of-the-art discussion is presented of the technology of production of high-melting metals: tungsten, molybdenum, rhenium, niobium, and titanium. Some views are expressed regarding the future trends of the production technology in the Soviet Union as well as abroad.

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USSR

UDC 669.295.472

REZNICHENKO, V. A., KHALIMOV, F. B.

"Electrode Potential of Titanium in a Sodium Chloride Melt"

Elektroodnyy potentsial titana v rasplave khloristogo natriya (Electrode Potential of Titanium in a Sodium Chloride Melt), Metallurgy Institute of the USSR Academy of Science, Moscow, 1971, 14 pp, ill., 9-entry bibliography, No 3665-71Dep. (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G217DEP)

Translation: A study was made of the Ti and Ti^{2+} and Ti^{3+} ion equilibrium in a NaCl melt by the equilibrium potential method. The electrode was made of Ti iodide, and a chloride electrode was the comparison electrode. The total Ti concentration in the melt was 0.14, 0.31, 0.46, and 0.83%. The measurements were taken in the 950-1,100° range. According to the data obtained, the proportion of Ti^{2+} ions is within the limits of 0.89-0.97. With a decrease in temperature and dilution of the melt, the proportion of Ti^{2+} ions increases. The temperature dependence of the standard electrode potentials is as follows:

$$E_{Ti^{3+}/Ti}^{\circ} = -2,180 + 3.70 \cdot 10^{-4} T \text{ and } E_{Ti^{2+}/Ti}^{\circ} = -2.390 + 5.25 \cdot 10^{-4} T.$$

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USSR

UDC 669.295:549.6

REZNICHENKO, V.A., MENYAYLOVA, G.A., KARYAZIN, I.A., and VOROBAYCHIK, A.I.

"Effect of Titanium Dioxide on Structure and Technological-Chemical Properties of High-Titanium Slags"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 5, Sep/Oct 71, pp 49-54

Abstract: The degree of exposure of slags in sulfuric acid was studied by mixing 100-gram specimens of slag in sulfuric acid (89%) in a 1:1.9 ratio. Decomposition occurred with continuous heating (in the 190-210° range) and with stirring. After decomposition, the melt was exposed for 2 hours at 20°, then cooled and leached with water (6 hours at 75-80°). High-titanium slag obtained in the smelting of Irshinskiye ilmenite concentrates in ore-heating electric furnaces were investigated. Mineralogical studies of specimens of high-titanium slags showed that the principal dominant phase is anosovite. Data showed that the presence in slag of excess titanium dioxide crystallizing as rutile strongly affects the degree of exposure of high-titanium slags in sulfuric acid. It was found that high-titanium slag can be used in making pigment titanium dioxide by the sulfuric acid method if the anosovite present is stoichiometric in composition, and if excess titanium dioxide is maintained in a small amount or is completely absent. In smelting titanium slags for the pigment industry, slag with constant chemical composition must be sought for,

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REZNICHENKO, V. A., et al, Moscow, Izvestiya Akademii Nauk SSSR, Metallurgiya, No 5, Sep/Oct 71, pp 49-54

where the principal components of the slag (TiO_2 , Ti_2O_3 , TiO , FeO , MgO , and Al_2O_3) must be entirely present as part of the anosovite without permitting crystallization of rutile.

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